

U.S.S.N. 10/707,045

2

139690NM (GEMS 0230 PA)

In the specification:

Please amend the specification as follows:

[0033] The capacitors 102, within each capacitor grouping, are "spread out" longitudinally and parallel to the axis 36 such that the coverage area 103 of the capacitors 102 has a width W that is approximately greater than 5.0cm, which is also greater than that of prior art body coils. The width of the groupings 104 and 106 may be approximately equal, as shown, or may be different. Increased width of the capacitor groupings 98 further distributes RF currents and reduces generation of E-fields. Also, the capacitors 102 are positioned farther away from the patient bore 24, which decreases size of the local E-fields associated therewith. Wider end rings 52 exhibit lower inductance between the capacitors 98, which enables higher capacitance in the endrings 52.

[0035] The center ring 53 is coupled to a ground reference 110, which has low impedance, such that the center ring 53 is effectively "shorted" to the ground reference 110. The center ring 53 includes a series of capacitors 112, which are coupled between the legs 86. The capacitors 112 are adjacently coupled via connections 113 therebetween. As such, the center ring 53, like the end rings 52, is circumferentially conductive. The capacitors 112 have low impedance at frequency levels of approximately greater than or equal to 120MHz. The center ring 53 may have any number of capacitors. Shorting the center ring 53 ensures symmetry of the imaging coil 12 end-to-end. Shorting the center ring 53 also allows for use of balun-less drive cables between the splitter 72 and the end rings 52.

[0036] Each receiver circuit 74 has associated adjacent capacitors, which are coupled to receiver circuits on an opposing end ring. For example, receiver circuit 114, on the forward end ring 88, has adjacent capacitors 116, which are coupled to receiver circuits 118.

U.S.S.N. 10/707,045

3

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~~{0036}~~[0037] The embodiments of the present invention provide an imaging system body coil with an increased number of legs, wider end rings, and elevated end rings, which eliminates losses associated with the B1 field, reduces voltages, and lowers E-fields associated therewith.

~~{0037}~~[0038] While the invention has been described in connection with one or more embodiments, it is to be understood that the specific mechanisms and techniques which have been described are merely illustrative of the principles of the invention, numerous modifications may be made to the methods and apparatus described without departing from the spirit and scope of the invention as defined by the appended claims.